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PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

Improvements relating to Holders for Electric Lamps.

We, HOWARD MARRYAT, trading as Marryat and Place, of 28, Hatton Garden, London, E.C. 1, and ROLLO GILLESPIE WILLIAMS, of 82, Alexandra Road, Wimbledon, in the County of Surrey, British subjects, do hereby declare the nature of this invention to be as follows:—

This invention relates to holders for electric lamps and has for its object to enable the centre of luminosity of the source of light, *e.g.* of the filaments, to be adjusted so as to bring it into any desired position relatively to the focus of a reflecting shade and thus to enable the maximum illumination produced by the combination of shade and lamp to be at any position required, *e.g.* in the illumination of shop windows.

According to one form of the invention, in order to adjust the source of light in a direction transverse to the axis of the shade, the lampholder of, for example, an electric glow lamp, is provided with an annular flange or surface, for example the outwardly projecting screw collar whereby the tubular part of the lampholder is secured to its end or base, and this flange or surface, which may be flat or convex, is caused to rest by spring pressure on the surface of a flat ring or bearing surface. On the end or base of the lampholder there is moreover mounted a cylinder which is so arranged as to stand clear of the support of the flat ring or bearing surface. This cylinder is adapted to be acted upon at three or more equally spaced positions around its periphery by the ends of preferably radial set screws which are adjustable in an outer tube or frame. By adjusting these set screws, the axis of the lampholder can be inclined in any direction laterally so as to bring the centre of luminosity of the

filament into register with *e.g.* the focus of a reflector.

In order to adjust the lampholder in an axial direction, the flat ring or bearing surface above mentioned is arranged to form one end of an inner tube or frame that bears on its sides projecting pins, lugs or rollers resting on helical surfaces mounted in an outer tube or frame and held thereon by spring pressure in any suitable manner. By turning the tube or frame, which carries the flat ring or bearing surface above mentioned, relatively to the helical surfaces, the tube or frame and the lampholder carried thereby can be adjusted axially as desired to bring the centre of luminosity of the filament into register with the focus of a reflector. By providing a graduated scale on the said tube or frame and a pointer on the outer tube or frame, the position of the centre of luminosity of the filament along the axis of the reflector or frame can be adjusted to a position determined by calculation, or as required.

The outer tube or frame above mentioned may carry both the helical surfaces and the set screws above mentioned. It may also be provided with a closed end against which rests one end of a helical or other suitable spring, the other end of which presses against the end or base of the lampholder, thus pressing the annular surface on the lampholder against the end of the inner tube or frame bearing the pins, lugs or rollers, and also pressing the said pins, lugs or rollers against the helical surfaces on the outer tube or frame. If desired a coil spring can be arranged around the tubular part of the lampholder and be adapted to press at one end against the bulb of the lamp and at the other end against the end of the above mentioned tube or frame carry-

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ing the pins and bearing surface. More-
over means such as clamping nuts and
bolts or studs can be provided for locking
the various parts in the positions to which
they have been adjusted.

According to another form or modifica-
tion of our invention, instead of provid-
ing the lampholder with an annular sur-
face adapted to rock on the annular bear-
ing surface on the inner frame, the lamp-
holder may have clamped thereto a flat
plate which is adapted to be slid laterally
on the said bearing surface, there being
provided in the hole in the latter suffi-
cient clearance to permit of the lamp
being adjusted laterally to the desired
degree in all directions. This adjust-

ment may be effected by set screws in the
outer frame as in the arrangement above
mentioned. The sliding plate may be
held against the annular bearing surface
by means of a spring as in the arrange-
ment first described.

By this means, the position of the fila-
ment longitudinally of the axis of the
shade or reflector is not altered during
the lateral adjustment of the lamps as is
the case when the lamp and lampholder
are tilted.

Dated this 25th day of June, 1924.

D. YOUNG & Co.,
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London, W.C. 2.
Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements relating to Holders for Electric Lamps.

We, HOWARD MARRYAT, trading as
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Garden, London, E.C. 1, and ROLLO
GILLESPIE WILLIAMS, formerly of 82,
Alexandra Road, now of 39, Southdown
Road, Wimbledon, in the County of
Surrey, British subjects, do hereby
declare the nature of this invention and
in what manner the same is to be per-
formed, to be particularly described and
ascertained in and by the following state-
ment:—

This invention relates to frames,
holders and galleries for electric lamps
and shades or reflectors, of the kind
wherein the centre of luminosity of the
source of light, *e.g.* of the filament, can
be adjusted so as to bring it into any
desired position relatively to the focus of
a reflecting shade in a direction trans-
verse to the axis of the gallery or shade.
In this type of frame, holder or gallery,
it is known to adjust both transversely
and longitudinally of such axis in order
to enable the maximum illumination pro-
duced by the combination of shade and
lamp to be at any position required, *e.g.*
in the illumination of shop windows.

According to our invention, in order to
adjust the source of light in the lamp
transversely to the axis of the gallery or
of the shade, the frame or gallery for the
shade is provided with an annular surface
against which an annular surface on the
lampholder is held by spring pressure,
means being provided for moving the
part of the lampholder remote from the
annular surface in a direction transverse
to the axis of the frame or gallery, so as
to move the source of light correspond-
ingly. This transverse motion of the
lampholder is advantageously effected by

means of, *e.g.* three adjusting screws
arranged radially in the body of the
frame or gallery at uniform distances
apart. These adjusting screws prefer-
ably act on a substantially cylindrical
surface on the lampholder, so that their
operation will remain substantially the
same during a limited amount of axial
movement of the lampholder.

This axial adjustment of the lamp-
holder is advantageously effected by pro-
viding the frame or gallery with an
internal spiral surface adapted to engage
with a projection on a rotatable sleeve
which bears the annular surface on which
the annular surface on the lampholder
rests. This rotatable sleeve is provided
with graduations extending parallel to
the axis of the sleeve and adapted to move
past a pointer arranged in an aperture or
window in the frame or gallery.

In the accompanying drawing, we have
shown how our said invention may be
conveniently and advantageously carried
into practice. In this drawing

Figure 1 is a side elevation of a gallery
constructed according to our invention.

Figure 2 is a vertical central section,
and

Figure 3 is a transverse section on the
line X—X, Figure 1.

The lampholder of, for example, an
electric glow lamp, is provided with an
annular flange or surface B, mounted on
the outwardly projecting screw collar C
whereby the tubular part D of the lamp-
holder is secured to its end or base E, and
this flange or surface, here shown of
convex form, is caused to rest, by the
pressure of a spring F on the surface of a
ring or bearing surface G formed on a
sleeve H which fits loosely in the lower

contracted part of the interior of the gallery J. One or other or both of the coaxing annular surfaces B, G may be made in the form of a segment of a sphere, so as to facilitate tilting of the lamp holder in any direction. The annular surface B is provided with a cylindrical extension K which is adapted to be acted upon at three or more equally spaced positions around its periphery by the ends of preferably radial set screws I, L which are adjustable in screw-threaded holes in the gallery J. By adjusting these set screws, the axis of the lampholder can be inclined in any direction laterally so as to bring the centre of luminosity of the filament into register with *e.g.* the focus of a reflector or shade M secured in the gallery by means of screws N, N.

In order to adjust the lampholder in an axial direction, the sleeve H bears on its sides a projecting pin, lug or roller O resting on a helical surface P provided in the gallery tube J and also held thereon by the pressure of the spring F. By turning the tube or sleeve H (*e.g.* by means of a tommy inserted into holes Q, Q therein) relatively to the helical surface P, the tube H and the lampholder carried thereby can be adjusted axially as desired to bring the centre of luminosity of the filament into register with the focus of the reflector. By providing graduations R, R on the tube H and a pointer S on the outer tube J of the gallery, the position of the centre of luminosity of the filament along the axis of the reflector M can be adjusted to a position determined by calculation, or as required.

The gallery tube J carries both the helical surface P and the set screws L, L and is provided with a closed end T against which rests one end of the helical spring F, the other end of which presses against the interior of the flange B on the lampholder, thus pressing the said flange against the flange G on the tube or sleeve H bearing the pin, lug or roller O, and also pressing the latter against the helical surface P on the gallery J. If desired a coil spring can be arranged around the tubular part of the lampholder and be adapted to press at one end against the bulb of the lamp and at the other end against a seat or shoulder in the lower end of the gallery tube J. Moreover means such as the clamping screw V are provided for locking the sleeve H in the position to which it has been adjusted. The upper end of the gallery tube J may be closed by a block or plate instead of by the domed end T, or be otherwise formed as desired.

A longitudinal fin, ridge or channel can be provided on or in the cylindrical extension K of the lamp holder flange, such fin, ridge or channel engaging with a removable projection, *e.g.* one of the screws L, L, in the outer casing J of the gallery so as to prevent rotation of the lamp holder during turning of the sleeve H and its flange G. By withdrawing the projection, *e.g.* one or more of the screws L, L, the lampholder can be turned as desired.

The above construction permits the important advantage to be obtained that the lamp can be turned about its own axis so as to use to the greatest advantage an unevenly shaped filament as a source of light. This is of especial importance in the case of gas-filled lamps where the filament is of substantially horseshoe form and there is considerable variation in the intensity of light in the horizontal plane at different points around the lamp.

According to another form or modification of our invention, instead of providing the lampholder with an annular surface adapted to rock on an annular bearing surface in the gallery tube, the lampholder may have clamped thereto a flat plate which is adapted to be slid laterally on the said bearing surface, there being provided in the latter sufficient clearance to permit of the lamp being adjusted laterally to the desired degree in all directions. This adjustment may be effected by set screws in the gallery tube as in the arrangement above mentioned. The sliding plate may be held against the annular bearing surface by means of a spring as in the arrangement first described.

By this means, the position of the filament longitudinally of the axis of the shade or reflector is not altered during the lateral adjustment of the lamps as is the case when the lamp and lampholder are tilted.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A frame or gallery for the shade of an electric lamp, of the kind wherein means are provided for adjusting the source of light in the lamp in a direction transverse to the axis of the gallery or of the shade, characterised in that the frame or gallery is provided with an annular surface against which an annular surface on the lampholder is held by spring pressure, means being provided for moving a part of the lampholder remote from the annular surface in a direction

transverse to the axis of the frame or gallery.

2. A constructional form of the device claimed in Claim 1, wherein the frame or gallery is provided with adjusting screws which are arranged at uniform distances apart around the lamp holder, and are adapted to bear against the surface of the lampholder.

3. A constructional form of the device claimed in Claim 2, wherein the adjusting screws act upon a substantially cylindrical surface mounted on the lampholder.

4. The combination, with the apparatus claimed in any of Claims 1 to 3, of means for moving the lampholder axially in the frame or gallery.

5. A constructional form of the device claimed in Claim 4, wherein the frame or gallery is provided with an internal spiral surface adapted to engage with a projection on a rotatable sleeve which bears the annular surface on which the annular surface on the lampholder rests, substantially as described.

6. A constructional form of the device claimed in Claim 5, wherein the rotatable sleeve is provided with graduations

extending parallel to the axis of the sleeve and adapted to move past a pointer arranged in an aperture or window in the frame or gallery, substantially as described.

7. A device as claimed in any of Claims 1 to 6, wherein the lampholder is provided with a longitudinally extending fin, ridge or channel arranged *e.g.* on or in the cylindrical extension of its annular surface, such fin, projection or channel being adapted to engage a removable projection, *e.g.* one or other of the radial adjusting screws, for the purpose specified.

8. A device of the kind claimed in any of the preceding claims, characterised in that the lamp is capable of being turned about its own axis.

9. The improved device constructed substantially as hereinbefore described with reference to the accompanying drawing, for the purposes specified.

Dated this 25th day of March, 1925.

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London, W.C. 2,
Agents for the Applicants.

[This Drawing is a reproduction of the Original on a reduced scale]

Fig.1

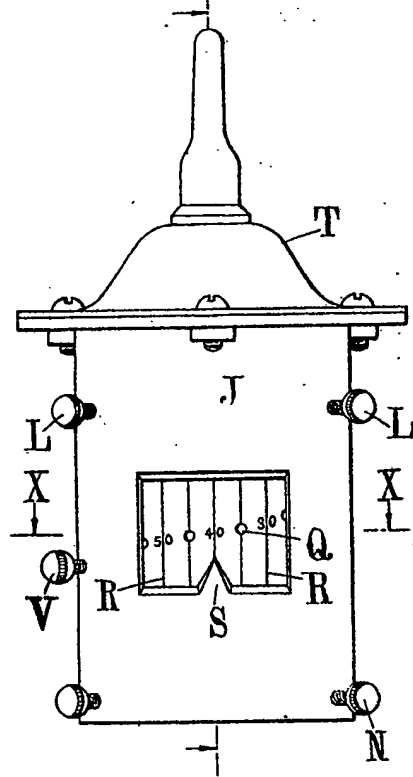


Fig.2.

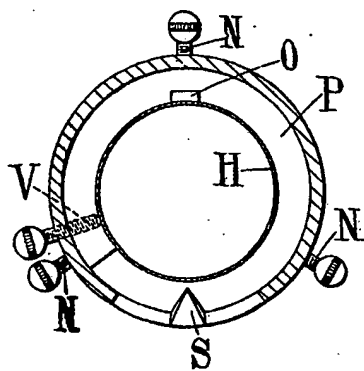
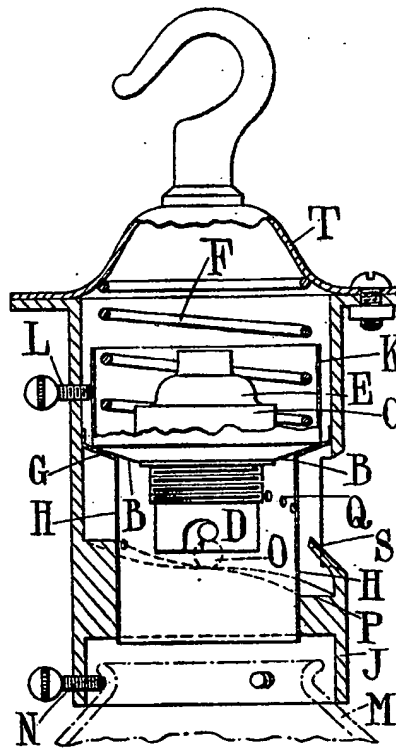


Fig.3.

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